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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/648,169

08/26/2003

Kug-Jin Yun

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EXAMINER

HALLENBECK-HUBER, JEREMIAH CHARLES

ART UNIT

PAPER NUMBER

2621

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/648,169	Applicant(s) YUN ET AL.	
	Examiner JEREMIAH C. HUBER	Art Unit 2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 February 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 22-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 22-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 10/317861.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>2/11/08</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/10/2009 has been entered.

Priority

Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 10/317861, filed on 11/20/2002.

Claim Rejections - 35 USC § 101

Claims 27-40 are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. Supreme Court precedent¹ and recent Federal Circuit decisions² indicate that a statutory "process" under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus), or (2) transform underlying subject matter (such as an article or material) to a different state or thing.

¹ *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1876).

² *In re Bilski*, 88 USPQ2d 1385 (Fed. Cir. 2008).

While the instant claim recites a series of steps or acts to be performed, the claim neither transforms underlying subject matter nor is positively tied to another statutory category that accomplishes the claimed method steps, and therefore does not qualify as a statutory process. For example the encoding and decoding methods method including steps of processing, combining, packetizing, multiplexing, outputting demultiplexing and decompressing are of sufficient breadth that it would be reasonably interpreted as a series of steps completely performed mentally, verbally or without a machine. The Applicant has provided no explicit and deliberate definitions of the method steps to limit the claims to the machine implemented form of the method and the claim language itself is sufficiently broad to read one or more persons being presented with printouts of a plurality video data streams, manually performing compression on the streams, manually integrating the streams into a single packetized stream, multiplexing the elementary stream by i.e. mixing printouts of the processed data with that of other streams, outputting the data by i.e. mailing it, and performing a similar but inverse decoding operation process at the destination. Likewise, the claims do not recite a 'transformation' of the underlying data as it applies under 101, because the claims merely act to manipulate generalized video data, and thus do not qualify as a transformation. See, In re Bilski slip op at 24-27.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2621

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 22-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oshima et al (6574423) in view of Chai et al (6553147) and Yamanaka (6052343) and Liu (7035453).

In regard to claim 22 Oshima discloses a stereoscopic three-dimensional video processing system based on MPEG including:

a compressor for processing a plurality of video data streams into a plurality of compressed video data streams, and combining the plurality of compressed video data streams into a single integrated elementary stream (Oshima Fig. 1 note MPEG encoders 3a and 3b and interleave circuit 4 and col. 5 lines 8-21);

a multiplexer for multiplexing the elementary stream (Oshima Fig. 1 note recording means 9); and

Oshima further discloses display discrimination information including the display mode that the packetized elementary stream provides (Oshima Fig. 49 note 223 stereoscopic identifier). It is noted that Oshima does not explicitly disclose a flag indicating the number of viewpoints in an elementary stream. However, Liu discloses a method for multi-view video compression in which a flag is used to indicate the number of viewpoints in a video bitstream (Liu Fig. 11 and col. 7 line 44 to col. 8 line 43 particularly note col. 7 lines 44-61 PG type indicates the number of views, further note col. 8 lines 27-43 PG header specifies the PG type). It is therefore considered obvious

that one of ordinary skill in the art at the time of the invention would recognize the advantage of including a number of viewpoints indication flag as taught by Liu in the invention of Oshima in order to allow for flexibility in coding as suggested by Liu (Liu col. 8 lines 41-43).

Oshima further discloses outputting the multiplexed stream to storage (Oshima col. 5 lines 28-35) and an optical head that interfaces with optical disks (Oshima Fig. 5 note 15 and col. 6 line 67 to col. 7 line 12). It is noted that Oshima does not explicitly disclose that this optical head acts to transmit or write the multiplexed signal. However, at the time of the invention it was common and notoriously well known in the art to use optical heads to transmit, or write, data onto optical media as is disclosed by Yamanaka (Yamanaka col. 1 lines 1-33). It is therefore considered obvious that one of ordinary skill in the art would have recognized the advantage of including a transmission or writing capability in the optical head of Oshima as suggested by Yamanaka in order to store information on an optical disk as required by Oshima (Oshima col. 5 lines 34-35).

Oshima further discloses details of packetized data (Oshima Fig. 49 and col. 16 lines 5-12). It is noted that Oshima does not disclose details of encoding and packetization according to the MPEG-4 standard. However, Chai discloses a method in which video and audio data are packetized before transmission. Chai further discloses one or more encoders compatible with MPEG 2&4 standards (Chai fig. 2 #220₁ and #220_n and col. 1 lines 25-40 and col. 4 lines 12-42). It is therefore considered obvious that one of ordinary skill in the art at the time of the invention would recognize the advantage of including a packetization and encoding according to the MPEG-4 standard

as taught by Chai in the video processing system disclosed by Oshima, in order to allow transmission of non-audio/video data and to be compliant with a wider range of standards. One would further expect the invention of Oshima to operate in this manner because Oshima discloses packetized data (Oshima Fig. 49).

In regard to claim 23 refer to the statements made in the rejection of claim 22 above. Oshima further discloses that the plurality of compressed video data streams are multi-channelled field based streams (Oshima Fig. 35 and col. 20 lines 9-24 note fields recorded in first and second angle sub-channels).

In regard to claim 24 refer to the statements made in the rejection of claim 23 above. Oshima further discloses that the object encoder outputs elementary streams in the unit of 4-channel fields including odd and even fields for left and right images when the input data are three dimensional stereoscopic data (Oshima fig. 23, output from compressing units 103a&b contains 4 fields denoted by circles, x's squares and triangles).

In regard to claim 25 refer to the statements made in the rejection of claims 22 and 24 above. Particularly, in example of Oshima, $N = 2$ and four field based elementary streams are outputted.

In regard to claim 26 refer to the statements made in the rejection of claim 23 above. Oshima further discloses that display discrimination information represents whether a video stream is two or three dimensional (Oshima Fig. 49 note 223 stereoscopic identifier).

In regard to claims 27-30 refer to the statements made in the rejection of claims 22-26 above.

In regard to claim 31 Oshima further discloses a method for decoding a multiplexed video packet stream including:

receiving the multiplexed packet stream which includes viewpoint information and display discrimination information, wherein the viewpoint information represents the number of viewpoints of motion pictures and the display discrimination information represents display mode of motion pictures (Oshima Figs. 49, 52 and col. 16 lines 23-40 note packetized video in Fig. 49 contains viewpoint information 221 and display information 223 also note the video is received from a DVD);

detecting the viewpoint information and the display discrimination information from the multiplexed packet stream (Oshima Figs. 13-14, 23-24 and col. 12 lines 35 to 55 note lines 45-50 stereoscopic/PG identifier is detected and stereoscopic mode may be initiated further col. 16 lines 12-21 note sub-stream number information 221 is included in the provider defined stream); and

confirming and decoding the stream based on the viewpoint and display discrimination information (Oshima Figs. 23-24 and col. 12 lines 35 to 55 for example of display discrimination decoding and Figs. 35, 52-53 and col. 16 line 23 to col. 17 line 9 for decoding using viewpoint information).

It is noted that Oshima does not explicitly disclose a flag indicating the number of viewpoints in an elementary stream. However, Liu discloses a method for multi-view

video compression in which a flag is used to indicate the number of viewpoints in a video bitstream (Liu Fig. 11 and col. 7 line 44 to col. 8 line 43 particularly note col. 7 lines 44-61 PG type indicates the number of views, further note col. 8 lines 27-43 PG header specifies the PG type). It is therefore considered obvious that one of ordinary skill in the art at the time of the invention would recognize the advantage of including a number of viewpoints indication flag as taught by Liu in the invention of Oshima in order to allow for flexibility in coding as suggested by Liu (Liu col. 8 lines 41-43).

In regard to claim 32 refer to the statements made in the rejection of claim 31 above. Oshima further discloses viewpoint and display discrimination information are included in a packet header (Oshima Fig. 49).

In regard to claim 33 refer to the statements made in the rejection of claim 31 above. Oshima further discloses a field shuttering display mode (Oshima Fig. 24 col. 12 line 56 to col. 13 line 5 note output transforming unit 105 for field shuttering at 120Hz and 60 Hz). Oshima further discloses generating a two channel elementary stream in the order of right odd and left even (Oshima fig. 24 note even and odd fields of left and right images 72-73 at output 106).

It is noted that Oshima in view of Chai does not expressly disclose a stream in the order of left odd fields and right even fields (hereafter Lo-Re).

However, it would have been obvious to a person of ordinary skill in the art at the time of the invention to instead use Lo-Re. Applicant has not disclosed that Lo-Re provides an advantage, is used for a particular purpose or solves a stated problem.

One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with Ro-Le because both ordering schemes serve the same purpose of present left and right images in different fields. One would further expect one of ordinary skill in the art to have no difficulty in implementing an Lo-Re order in the invention of Oshima as all even and odd fields of the left and right images are available at the 120 Hz output 105 (Oshima Fig. 24) and selecting different fields for the 60 Hz output 106 would be trivial. Therefore, it would have been obvious to one of ordinary skill in this art to modify Oshima in view of Chai and Yamanaka with Lo-Re ordering to obtain the invention as specified in claim 8.

In regard to claim 34 refer to the statements made in the rejection of claim 31 above. Oshima further discloses a frame shuttering display mode (Oshima Fig. 25 and col. 13 lines 6-20 for frame based shuttering). Oshima further discloses ordering groups of fields from right and left video streams in the order of right odd, right even, left odd, left even (Oshima Fig. 25 and col. 13 lines 7-20 note Groups A-B for right odd and even and groups C-D for left odd and even hereafter Roe- Loe).

It is noted that Oshima in view of Chai does not disclose expressly ordering left fields before right fields (hereafter Loe-Roe).

However, it would have been obvious to a person of ordinary skill in the art at the time of the invention to use Loe-Roe ordering. Applicant has not disclosed that Loe-Roe provides an advantage, is used for a particular purpose or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention

to perform equally well with Roe-Loe because both ordering schemes serve the same purpose of transmitting left and right frames to a receiver or storage unit.

Therefore, it would have been obvious to one of ordinary skill in this art to modify Oshima in view of Chai and Yamanaka with Loe-Roe ordering to obtain the invention as specified in claim 9.

In regard to claim 35 refer to the statements made in the rejection of claim 31 above. Oshima further discloses a two dimensional mode (Oshima col. 7 lines 35-46 note 2d mode) Oshima further discloses that fields output from the right channel are used when operating in the two dimensional mode. (Oshima Fig. 5 and col. 7 lines 1-13 note switch 27 in 2D mode will only output the R/A signal on outputs 29 and 30 and will output both R/A and L/B when in the 3D mode)

It is noted that Oshima in view of Chai does not expressly disclose using the left channel in the odd-even order (hereafter Loe).

However, it would have been obvious to a person of ordinary skill in the art at the time of the invention to use Loe in the two dimensional mode. Applicant has not disclosed that Loe provides an advantage, is used for a particular purpose or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well using the right channel because both schemes serve the same purpose of presenting a viewable two dimensional image of, substantially, the same scene. Therefore, it would have been obvious to one of ordinary

skill in this art to modify Oshima in view of Chai and Yamanaka to use Loe in order to obtain the invention as specified in claim 9.

In regard to claim 36 refer to the statements made in claims 31 and 34 above. In Oshima N is equal to two.

In regard to claims 37-40 refer to the statements made in the rejection of claims 31-36 above. Oshima further discloses demultiplexing (E.g. Oshima Fig. 24 note separator 68).

Response to Arguments

Applicant's arguments with respect to claims 22-40 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Yoshida	7/13/2002	2002/0071616 A1
Kirkland et al	01/06/2004	6674440 B1

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEREMIAH C. HUBER whose telephone number is

(571)272-5248. The examiner can normally be reached on Mon-Fri 8:00 a.m. - 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on (571)272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jeremiah C Huber
Examiner
Art Unit 2621

/Jeremiah C Huber/
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/Dave Czekaj/
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